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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Anthony Chamberlain

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EXAMINER

ZHU, WEIPING

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

01/21/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,574	Applicant(s) CHAMBERLAIN ET AL.	
	Examiner WEIPING ZHU	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5 and 8-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5 and 8-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 11, 2008 has been entered.

Status of Claims

2. Claims 1, 2, 4, 5 and 8-23 are currently under examination wherein claims 1, 2 and 4 have been amended in applicant's amendment filed on December 11, 2008.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4, 5 and 8-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatch et al. (US 4,410,498) in view of Lussiez et al. (US 4,547,348).

With respect to claim 1, Hatch et al. (498) disclose a process for recovering a valuable metal in the form of nickel from a leach solution (i.e. a leach liquor as claimed) containing the valuable metal and iron in solution and obtained by processing laterite

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ores contaminated with iron by atmospheric and/or pressure leaching comprising
(abstract, Fig. 2 and col. 2, line 67 to col. 4, line 1):

reducing ferric ions to ferrous ions in the leach solution using a suitable gaseous reductant, wherein the leaching solution being obtained by processing the ore;

neutralizing the processed solution to reduce the free acid concentration in the solution to levels suitable for precipitations of the valuable metal; and

precipitating the valuable metal using the reductant under process conditions including temperature, that are selected to maximize the precipitation of the valuable metal and to minimize iron precipitation.

Hatch et al. (498) discloses that the neutralization of the excess acid in the slurry is advantageously combined with the extraction of valuable non-ferrous metals contained in the serpentinic fraction, while controlling the redox potential of the leaching process at a millivolt range (col. 3, lines 27-34) without specifying that the above steps are performed after the leach process. However, the process of Hatch et al. ('498) comprising introducing the reducing gas into the solution, neutralizing the solution and precipitating nickel and cobalt in the solution is a continuous and dynamic process (col. 2, line 67 to col. 3, line 35). During the leaching period, the leaching solution of Hatch et al. ('498) is a leach liquor containing nickel and cobalt (col. 3, line 44 to col. 4, line 6) identical to the leach liquor as claimed in the instant claim 1. Therefore, the teaching of Hatch et al. ('498) does include processing the leach liquor after the leach process as claimed.

Hatch et al. (498) does not disclose that the neutralization step maintains the iron in the ferrous state as claimed. However, it has been well held where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical process, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977), MPEP 2112.01 [R-3] I. In the instant case, the claimed and Hatch et al. (498)'s valuable metals are identical or substantially identical in structure or composition and are produced by identical or substantially identical processes, therefore a prima facie case of obviousness exists. The same ferrous iron would be expected to be maintained in the neutralization of Hatch et al. (498) as in the claimed neutralization.

Hatch et al. (498) does not teach using seed particles as claimed. Lussiez et al. ('348) discloses using seed particles in the precipitation step (col. 1, lines 32-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add seed particles to the solution of Hatch et al. (498) as disclosed by Lussiez et al. ('348) in order to assure substantially complete precipitation of the valuable metal as disclosed by Lussiez et al. ('348) (col. 1, lines 32-35).

With respect to claims 2, 14 and 15, Hatch et al. (498) discloses that the reductant was used in the presence of an initial concentration of 20-40 g/l free acid (col. 4, lines 57-59) and the temperature of the solution ranges from 80° C to 85° C (col. 5, line 60 to col. 6, line 35). The content of the free acid and the temperature range overlap

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the claimed content and range respectively. A prima facie case of obviousness exists.

See MPEP 2144.05 I.

With respect to claim 4, Hatch et al. (498) discloses that the reductant is gaseous hydrogen sulphide (col. 3, line 63 to col. 4, line 1).

With respect to claim 5, Hatch et al. (498) discloses that the pH of the leach is maintained at 1.5 to 3.0, which includes the claimed pH of 2. A prima facie case of obviousness is established. See MPEP 2144.05 I.

With respect to claim 8, Hatch et al. (498) discloses that the valuable metals are nickel and cobalt (abstract).

With respect to claim 9, Hatch et al. (498) in view of Lussiez et al. ('348) does not disclose the claim feature. However, Hatch et al. (498) discloses that the method could be used with a variety of lateritic ore containing nickel (col. 1, lines 18-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the process of Hatch et al. (498) in view of Lussiez et al. ('348) to recover the nickel from a chlorite mineral phase as claimed with expected success, because Hatch et al. (498) discloses the same utility of the process for any types of lateritic ore containing nickel. See MPEP 2144.05 I.

With respect to claims 10-13 and 16-20, Hatch et al. (498) in view of Lussiez et al. ('348) does not disclose the claimed features. However, it is well held that discovering an optimum value of a result-effective variable involves only routine skill in the art. In re Boesch, 617, F.2d 272, 205 USPQ 215 (CCPA 1980). In the instant case, the partial pressure of the reductant gas as claimed in the instant claims 10-13, the

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sizes of the seed particles as claimed in the instant claims 16-18 and the concentration of the seed particles as claimed in the instant claims 19 and 20 are result-effective variables, because they would directly affect the extraction of the valuable metals as disclosed by Hatch et al. (498) (col. 3, line 63 to col. 4, line 1) and Lussiez et al. ('348) (col. 1, lines 32-35) respectively. Therefore it would have been obvious to one skilled in the art to have optimized the partial pressure of the reductant gas, the sizes and the concentration of the seed particles in the process of Hatch et al. (498) in view of Lussiez et al. ('348) in order to achieve desired extraction of the valuable metals. See MPEP 2144.05 II.

With respect to claims 21-23, Hatch et al. (498) discloses that the ratio of iron to the valuable metals in the leach solution is about 5:1 (col. 3, lines 44-52), which overlaps the claimed ranges of the ratio. A prima facie case of obviousness exists. See MPEP 2144.05 I.

Response to Arguments

4. The applicant's arguments filed on December 11, 2008 have been fully considered but they are moot in view of the new ground(s) of rejection as discussed in the Section 3 above.

Conclusions

5. This Office action is made non-final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

WZ

1/9/2009